Iowa Railroad Ties

News and insights into Iowa's rail industry and the role it plays in Iowa's economy.

A newsletter published by the Iowa Department of Transportation's Office of Rail Transportation

May 2007

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Iowa Department of Transportation

Did you know...

Railroads are categorized by the Surface Transportation Board based on their annual operating revenues.

Class I railroads, the nation's largest, have operating revenues of $319.3 million or more.

Class II railroads, commonly called regional railroads, have operating revenues in excess of $25.5 million but less than $319.3 million.

Class III railroads, often called short line railroads, have operating revenues of $25.5 million or less and all switching and terminal companies regardless of operating revenues.

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Feature Articles

Railroads going "green"

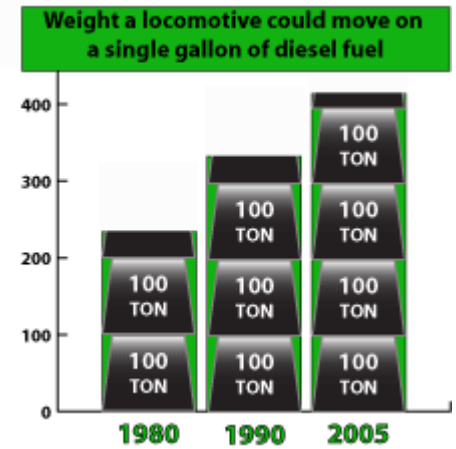
Seldom does a newspaper not include something related to the environment. Global warming, greenhouse gases, air and water quality, and biofuels are getting a lot of press coverage as awareness and concern grow about the impact of our past and future actions. Recently, I acquired a new vehicle, and I opted for a hybrid. Somehow it feels good to know that in a very small way I am trying to do my part.

Railroads are also doing their part. No longer do you see coal-fired locomotives belching clouds of oily, soot-filled black smoke. Railroads have come a very long way and today are among the most environmentally sound methods of freight transport. This edition of the newsletter will examine some of the "green" accomplishments and developments in the rail industry, as well as other activities in the rail realm in Iowa.

On a completely different note, I know many of you have visited our booth in the Varied Industries Building at the Iowa State Fair over the last few years. I want to thank you for stopping to visit and supporting rail transportation. This year the office staff will be taking a break from the fair and will not be sponsoring a booth.

Peggy Baer, director of the Office of Rail Transportation

Miserly on fuel



Freight railroad fuel efficiency has risen 76 percent since 1980. In 2005, railroads could move a ton of freight nearly 414 miles, on average, per gallon of diesel fuel. That's up from 235 miles in 1980 and 332 miles in 1990. To put that in perspective, passenger vehicles today would average more than 35 miles per gallon, if fuel efficiency had improved at the same rate as railroads.

With railroads consuming close to 3 billion gallons of diesel fuel annually, even small improvements pay off substantially. Microprocessors on newer locomotives continually monitor locomotive functions and adjust performance for optimal efficiency. Changes in practice and auto-off mechanisms reduce unnecessary idling. Iowa Interstate Railroad estimates their fleet of locomotives equipped with Smart Start devices have resulted in a 3 to 5 percent fuel savings through reduced idling. Hybrid locomotives (much like hybrid automobiles) and locomotives fueled by liquefied natural gas are now available. Engineers are trained to operate locomotives in the most fuel-efficient manner, and some railroads have instituted incentive programs for efficiency. (See article on the Union Pacific Railroad's incentive program in the March 2006 issue of Iowa Railroad Ties .)

Keeping our air clean

Although Iowans enjoy great air quality in comparison to many others, we want to continue to enjoy that

advantage.

Of the various modes of travel, on an emissions per ton-mile basis, rail beats water, truck and aviation in the level of nitrous oxides, volatile organic compounds, carbon monoxide, and carbon dioxide. Only in particulate matter does rail rank second, behind aviation, in a study by the consultant firm Envirotrans.

When it comes to global warming, the amount of greenhouse gas (GHG) emissions is of particular concern. Carbon dioxide accounts for approximately 85 percent of the total GHG emissions released by human activity. The amount of carbon dioxide released is directly related to the energy efficiency of the transportation mode, so rail again comes out on top, accounting for just 2 percent of the total U.S. GHG emissions from transportation and mobile sources, and well under 1 percent of total GHG.

Large intermodal facilities and seaports face a real challenge in dealing with air quality and emissions. On the one hand, shipping containers by rail is very positive for the environment. However, in the immediate vicinity of intermodal facilities where trucks pick up containers shipped by rail or where cargo is transferred from ship to rail or truck, air quality can suffer, largely due to the number of locomotives and trucks in very close proximity. Many of the fuel efficiency and emissions control advancements and experimental technologies are being tested in these environments to ease air quality concerns.

The Environmental Protection Agency recently proposed regulations that will reduce particulate emissions and nitrogen oxides from all diesel engines by 90 percent by 2017. With suppliers, railroads and government cooperating in aggressive research programs, you can expect that rail fuel and emission reductions will continue to improve.

How ethanol has changed transportation in Iowa

No discussion of environmental issues is complete without looking at the ethanol industry in Iowa. The ethanol boom is not only creating new markets for corn, it is changing the way the commodity is being shipped, both within the state and to regional, national and foreign markets.

Before the ethanol boom, corn shipment was relatively straightforward – what could be used locally was shipped by truck to processors or feeding operations. The rest was trucked to the local elevator where it was shipped to more distant national or international markets in the most cost effective way – by truck, rail, barge or a combination of modes.

With the ethanol boom, more farmers are trucking their corn to biofuel processing plants. Once processed, a bushel of corn produces 2.7 gallons of ethanol and 17 pounds of a high-protein feed, often referred to as dried distiller's grain or DDG for short. Because ethanol absorbs water and impurities that reside in fuel pipelines, ethanol cannot travel via pipeline and must be transported by rail tanker car or tanker truck. The high-protein feed is trucked to local livestock operations, but production is often higher than can be used locally; so, DDGs are also shipped to livestock operations farther west in rail hopper cars.

The rapid growth of the ethanol industry in Iowa has transformed the transport of corn and corn products in just a few years:

- Fewer hopper cars and unit trains of corn are shipped by rail.
- More corn is trucked to local facilities.
- As production increases, the shipment of ethanol and DDGs by rail will continue to increase, more than making up for any loss of corn shipments.
- Local truck and train traffic can increase dramatically when an ethanol plant locates in an area.
- Ethanol and DDGs are shipped to different destinations than corn.
- Unloading facilities at destinations are often inadequate to handle the increase in

ethanol shipments.

- Rail tanker cars are in short supply as manufacturers struggle with backlogs of orders

Craig O'Riley from the Iowa DOT's Office of Systems Planning has been monitoring the changes in rail shipments of corn and the way these changes have affected railroad companies. "In the next few years, with the projected increase in the rate of production of ethanol, it is expected that Iowa may become an importer of corn, rather than an exporter."

O'Riley estimates that 160 daily incoming truckloads of corn will be required at an ethanol plant producing 100 million gallons annually. From that same size facility, one-third of the ethanol and ethanol by-product will be shipped from the production facility by truck. The remaining two-thirds will be shipped by rail.

O'Riley used an Iowa State University study prepared in November 2006 to calculate that 6,500 rail cars of ethanol and ethanol by-product will be shipped annually, along with 8,800 semitrucks outbound from a typical 100 million gallon production facility each year. "That could mean a large increase in truck traffic near ethanol facilities," said O'Riley.

With changes of this magnitude there is a cost. Ethanol plants must build extensive rail infrastructure to store and load rail cars, which can cost up to $2 million per mile to install.

Railroads are investing millions in infrastructure improvements to accommodate heavier rail traffic, adding switches, additional track, enlarging yards, etc., to efficiently handle growing ethanol shipments. As one example, the Union Pacific is investing $61.1 million in track improvements in Iowa and Minnesota, and another estimated $15 million in Nebraska, to support the growing ethanol business. Shortline railroads and branch lines may require upgrades in track and bridges to accommodate heavier cars and increased traffic. Iowa Northern Railway is one such railroad that has planned investments of $55 million over the next six years for these type of improvements. Traffic patterns in the vicinity of ethanol plants change, which may also necessitate upgrading the highway-railroad crossings. Increased truck traffic to ethanol plants may result in the need to add capacity and improve infrastructure on the state's roads system, such as adding lanes, traffic lights or turn lanes.

When the expected production of ethanol using plant fiber (corn stalks, switch grass, wood chips, and other cellulose fibers) becomes less expensive than corn, expect other yet unforeseen changes in the transportation system. Whatever the future brings, Iowa's ethanol industry will continue to evolve and spark lively conversation in the months and years to come.

For a map of current and planned ethanol facilities in Iowa and their relationship to Iowa's rail system, visit www.iowarail.com and click on Maps at the top of the page.

Biofuels distribution development

As a testament to the significant transportation system changes brought about by the biofuels industry, the Manly Terminal, LLC will soon open its doors in northern Iowa. Located in Manly, this first-of-its-kind, truck-to-rail biofuels distribution and trading terminal will provide biofuels producers additional transport and marketing options. Biofuels producers will be able to truck their product to the terminal, located just seven miles from I-35, where it can be stored or shipped out by rail for distribution. The terminal is located on the Iowa Northern Railway Co. and connects to the Union Pacific Railroad, BNSF Railway and CN, providing a unique opportunity to ship product readily throughout North America. By consolidating the products from several producers, the fuels can be shipped on economical 75- to 100-car unit trains. Lee Kiewiet, president of Manly Terminal, said, "It's an excellent location within the mecca of ethanol production in the Midwest. It gives anyone that has product delivered into Manly Terminal the ability to deliver it anywhere in the United States without having to pay several switching fees." The 100-acre reload facility will open later this spring, with eventual plans to include 20 million

gallons of liquid storage.

Moving Iowa Forward conference *(reprinted from INSIDE, the Iowa DOT's in-house newsletter)*

Combining forces to address the issues facing Iowa's transportation systems, the Iowa departments of Transportation and Economic Development brought more than 200 stakeholders together Jan. 18 for a one-day session focused on what can be done to enhance transportation systems and economic development.

Keynote presenter John B. Ficker, president of the National Industrial Transportation League in Washington, D.C., highlighted the critical link between transportation and economic development. He also delved into the complicated relationships of carriers and shippers, and stressed the point that many companies are now both buyers and sellers of transportation solutions. Ficker talked about the critical capacity needs facing our country and how Congress is laying the groundwork to address this issue in the next reauthorization bill set for 2009.

Ficker noted driver shortages for trucking companies, increasing fuel costs, highway system congestion, proposed driver hours-of-service changes, and the move by some states to "sell" their infrastructure to private companies as critical needs to be addressed by the transportation industry. He quoted an American Association of State Highway and Transportation Officials' report as saying the volume on the nation's roads is expected to double by 2035. Ficker continued, "If this is even half-correct, it will be difficult to keep up."

When discussing the sale of existing infrastructure being done in some states, Ficker warned of possible damage to the system as a whole, "The sale of infrastructure threatens to chop up the network. The transportation system in this country is a network."

Included in this network, says Ficker, is the rail system. He stated that increasing capacity of this system is also a key ingredient to economic stability and growth. Ficker touched on issues with fuel, intermodal services, the role of shortlines in the system, capital needs, tax credit legislation, and the need for a 21st century rail industry shipper/carrier relationship model as needs facing this transportation mode.

For all transportation professionals, security has come to the forefront in recent years. Ficker pointed out that in Congress, every senator and all but four congressmen are involved in some committee or subcommittee related to homeland security. Ficker called on the conference attendees to suggest a balance between the needs of the transportation systems and security of the country when communicating with legislators.

Ficker also urged attendees to work at increasing the level of urgency placed on solutions to transportation issues. He said, "This is a crisis-oriented country. Things are dealt with when the crisis hits." He pointed to leaders such as Lincoln (in establishing the transcontinental railroad) and Eisenhower (in planning the interstate system) whose leadership grew out of a sense of urgency that doesn't exist in today's climate.

For solutions, Ficker pointed to four elements as critical to the success of this nation's transportation system: technology; processes; productivity; and funding. He elaborated on the productivity element, "Rail and truck are no longer competitors. The system must work together." He reiterated the need for public/private collaboration and participation by both transportation and economic development factions.

Later in the day, Pete Rickershauser from the BNSF Railway echoed Ficker's message of cooperation when he said that supply chains are shifting to intermodal transportation where rail is "moving more stuff than ever before, causing a capacity crisis."

The remainder of the day was filled with information delving into the details of personnel shortages in the trucking industry, containerized freight transportation, intermodal shipping, infrastructure innovations, and technologies to move the transportation industry forward.

The day was closed with a message from Nancy Richardson, Iowa DOT director, who emphasized the need for increased funding for Iowa's transportation systems, "Both the motor carrier and rail industries, along with the Iowa DOT, understand the need to work together for healthy road and rail systems in our state to effectively and efficiently move the amount of freight necessary to continue and grow our economy. The Iowa DOT is working to increase funding for both the highway and rail systems through programs introduced this year. Local support of these programs, and communications between local business owners and economic development groups, will play a major role in achieving the funding goals of these initiatives. Conferences such as this are a great way to get the information to the people who can use it to further the cause of economic development in the state."

PowerPoint® presentations from many of the speakers at the conference are available from a link on our Web site at www.iowarail.com.

Transportation funding and growth

Transportation funding and growth

Customer demand for connections to Iowa's rail system has grown with the rise in fuel costs and the burgeoning biofuels industry. The Iowa Rail Finance Authority (an independent board appointed by the governor) administers the Railroad Revolving Loan and Grant Program to assist business and industry in developing those critical, but high-cost connections. The Iowa General Assembly recently passed House File 911, a bill that includes a $2 million appropriation for the Railroad Revolving Loan and Grant Fund. The legislation is currently awaiting the governor's signature. We thank you for your support of the Rail Revolving Loan and Grant Program and the Access Rail funding initiative. If the bill is signed, applications will be accepted later this summer to award approximately $2.5 million in grants and loans to provide access to and strengthen the rail transportation system in Iowa.

At the federal level, legislation was introduced in the House and Senate to extend the Railroad Maintenance Tax Credit. The tax credit, originally passed in 2004, allows Iowa's smaller Class 2 and 3 railroads to claim a tax credit for rail maintenance and upgrades. The credits encourage investments in track improvements to carry heavier rail cars, increase service to customers and improve safety. The proposed legislation extends the credits through 2010.

Other recently introduced federal legislation would encourage private investment for rail expansion by offering a tax credit for investments that increase the capacity of the nation's rail transportation system. Rail infrastructure or equipment investments by any company or railroad would be eligible. Potentially eligible investments would include new track or sidings, new or expanded yards or intermodal facilities, equipment, or other improvements that expand the volume of freight that can be transported.

Highway preservation and construction and the current funding situation are also in the spotlight. An Iowa DOT report to the Iowa General Assembly, "Study of Iowa's Current Road Use Tax Funds (RUTF) and Future Road Maintenance and Construction Needs," was issued in December 2006. It was prepared in consultation with city and county officials. The study points out the challenges facing Iowa's funding for roadways which, if left unaddressed, will continue to delay critical maintenance and preservation efforts and defer investments aimed at adding capacity to our roads system.

In reaction to the study's findings, as well as a call from individuals and agencies throughout the state

for more road funding, the Iowa General Assembly passed House File 932. If enacted, the legislation creates the “Transportation Investment Moves the Economy in the 21st Century (TIME-21) Fund:, provides for funding to come from any moneys appropriated by the General Assembly and any revenues credited by law to the TIME-21 Fund, distributes any funding via a 60 percent Primary Road Fund/20 percent Secondary Road Fund/20 percent Street Construction Fund formula, directs funding toward specific investment areas, calls for continued development and issuance of needs and revenue studies and reports, and establishes an eight-member legislative interim committee to develop a financing proposal for next session. More information on TIME-21 can be found on the Iowa DOT's web site at www.dot.state.ia.us.

Inaugural Special passenger train

Iowa Interstate Railroad Ltd., BNSF Railway Co. and Iowa Association of Railroad Passengers cooperated to offer free passenger train service between Des Moines and Iowa City for Governor Chet Culver’s inaugural gala at Hancher Auditorium, featuring entertainer Al Green. The Inaugural Special, offering a unique and energy-efficient transportation option to those attending the event, left downtown Des Moines after lunch on Jan. 11, and picked up passengers in Newton, Grinnell and Marengo on the way to Iowa City, and returned along the same route at the close of the gala.

The passenger cars were donated by the BNSF Railway and Iowa Interstate Railroad. Locomotive power and crews were donated by the Iowa Interstate Railroad, with members of the Iowa Association of Railroad Passengers on board the passenger cars to assist riders, answer questions and assure a safe trip.

"The Iowa Interstate Railroad is the successful result of over 20 years of private-public cooperation," said Dennis Miller, CEO of the railroad. "Iowa Interstate Railroad owes its existence to the State of Iowa and Iowa Railway Finance Authority, which provided the financing to help create the railroad. We appreciate the support of Iowa’s citizens. Putting together the Inaugural Special and offering free train travel to those attending the Culver-Judge inaugural events in

Iowa City is an expression of our appreciation to Iowans for their support of our operations over the years."

Industry News Shorts

Burlington Junction Railway

Burlington Junction Railway recently contracted with BNSF Railway to operate BNSF's rail yards in Ottumwa and offer transloading (transferring goods from truck-to-boxcar or boxcar-to-truck) and switching services in Ottumwa and the surrounding communities.

"Our success is tied directly to saving our customers time, money and aggravation. We look forward to offering the same quality service to business and industry in the greater Ottumwa area, making their experience with shipping by rail much easier without costing them any more money," said Robert Wingate, general manager of Burlington Junction. BNSF named Burlington Junction the nation's best shortline railroad on their system in 2004.

In recent years, national railroads like BNSF have focused more on long-distance hauling. To do that and keep their customers happy with local service, they partnered with short line railroads connected to their system. Shortlines can pick up local freight and deliver it to a main line where it is picked up and pulled to destinations across the state or across the country.

Of the railroads operating in Iowa, Union Pacific Railroad, BNSF Railway, Norfolk Southern, and CN are Class 1 railroads. The remaining railroads are Class 2 or 3 carriers, commonly referred to as

shortline or regional railroads.

Iowa Interstate Railroad

Iowa Interstate Railroad (IAIS) closed the purchase of Lincoln & Southern Railroad (L&S) from PolyOne Corp. at the end of 2006. IAIS President and CEO Dennis Miller stated, "The purchase of L&S is another step in solidifying Iowa Interstate Railroad's long-term plans. We have upgraded our main line from Council Bluffs, Iowa, to Utica, Ill., over the past two years and this 31-mile section from Henry to Peoria, Ill., will also be upgraded to handle 286,000-pound loads. L&S, which serves as our access to Peoria, makes our customers competitive at a number of grain processing facilities. L&S is our primary access to the Illinois River, which remains ice-free year-round, and serves as an intermodal connection for grain and other products."

Rail Tourism

Ag-Rail Heritage Festival in August

The Siouxland Historical Railroad Association, in partnership with Tri-State Antique Club and Woodbury County Threshers Group, will host the fifth annual Ag-Rail Heritage Festival on Aug. 18 and 19 at the Milwaukee Railroad Shops Historical District and surrounding grounds in Sioux City. The family-oriented festival focuses on the community's historical and musical roots in agriculture and railroading. Country and bluegrass music, displays and field demonstrations of vintage farm equipment, railroad displays, motor car rides, and special activities for children are planned.

Passenger Rail Corner

Amtrak update

Amtrak has recently completed a passenger rail study examining the feasibility of a Chicago to Rockford, Ill., to Dubuque, Iowa, route. The study, requested by the Illinois Department of Transportation, is currently being evaluated by the Illinois DOT. The study identifies several possible routes but a final route has not yet been selected.

A similar study by Amtrak is just beginning and will consider a route from Chicago to Iowa City. The Illinois Department of Transportation initially requested the study from Chicago to the Quad Cities, however the Iowa Department of Transportation asked for the study to include an extension to Iowa City. The study is expected to be completed some time in the fall.